



Meeting Minutes

HANFORD ADVISORY BOARD (HAB, Board)

Committee of the Whole (COTW)

May 17, 2022

Virtual Meeting via Microsoft Teams

Topics in this Meeting Summary

Opening.....	2
Environment Justice: Tri-Party Agreement Agency Perspectives.....	2
Board Discussion on Environmental Justice	7
Public Comment	12
Closing	13
Meeting Recording	13
Attachments	13
Attendees	13

This is only a summary of issues and actions discussed at this meeting. It may not represent the fullness of represented ideas or opinions, and it should not be used as a substitute for actual public involvement or public comment on any particular topic unless specifically identified as such.

Opening

Ruth Nicholson, HAB Facilitator, welcomed meeting participants.

Gary Younger, US Department of Energy (DOE), served as the Deputy Designated Federal Officer and announced that this meeting was being held in accordance with the Federal Advisory Committee Act (FACA). He explained that the HAB's role was to provide policy-level advice and recommendations regarding DOE Environmental Management (DOE-EM) site-specific issues.

Steve Wiegman, Public at Large and HAB Chair, welcomed participants and provided opening statements. He explained that the meeting was the first time the HAB had met in person in years and asked that participants be patient during that learning process. He provided thoughts on the HAB, explaining that the Board is advisory in nature, rather than serving as an oversight board, a critic, or an auditor. He asked that members in attendance introduce themselves.

Ruth provided some instructions for the remote and virtual participation "hybrid" format. She noted that the meeting was being recorded.

Environment Justice: Tri-Party Agreement Agency Perspectives

Office of Environmental Management's (EM) Efforts Under the Justice40 Initiative and the EM Minority Serving Institutions Partnership Program

Gary Younger introduced the first presenter, Nicole Nelson-Jean, the Associate Principal Deputy Assistant Secretary for Field Operations for the DOE Office of Environmental Management (EM). Gary explained that she held the overriding responsibility to develop strategies, policy, and guidance for the 15 EM field sites in support of the EM mission and oversaw nuclear operations, safeguards and security, and technology development. Nelson-Jean also oversees EM's efforts under the Justice40 Initiative. He provided detail on Nichole's professional background prior to that role, awards, and education.

Nichole greeted the meeting participants and thanked them for the opportunity to speak. She started her presentation by defining environmental justice, explaining that it is the fair and meaningful involvement of all people, regardless of race, income, or other factors, regarding law, regulations, and policies.

She explained that the Justice40 Initiative was a requirement based on Executive Order 14008 that provided recommendations on how federal investments might be made to contribute toward a goal where 40% of the overall benefits of such investments would flow to disadvantaged communities. The [Interim Implementation Guidance](#) for Justice40 was released in July of 2021. Additionally, federal agencies are directed to conduct robust stakeholder engagement and Tribal consultation as they implement the Justice40 Initiative.

The focus of DOE-EM's environmental cleanup work under the Justice40 Initiative is soil and groundwater remediation, which include the soil and groundwater remediation on the Hanford Site. The EM Los Alamos Field Office, responsible for cleanup at Los Alamos National Laboratory (LANL), was chosen as one of the five DOE Justice40 pilot programs. Under this program LANL has been conducting listening sessions on the initiative and interacting with stakeholders through presentations, conference calls, meetings, and workshops.

She noted that there were other efforts within DOE-EM in the realm of environmental justice, such as development of screening tools that could assist agencies in identifying nearby underserved communities, and as a result, target their efforts. She noted that the tool was presently undergoing a public feedback

session. The agency was awaiting additional guidance on the path forward for the Justice40 initiative and the overall scorecard that the government would use for that effort.

Nichole explained the EM Minority Serving Institutions Partnership Program (MSIPP). MSIPP was intended to address the need to establish and maintain a trained, technically skilled, and diverse workforce through promotion of education for future generations in science, engineering, technology, and math (STEM) disciplines, manufacturing, and cybersecurity. In fiscal year (FY) 2022, DOE-EM received \$56 million for the EM MSIPP. Through this program, DOE was visiting and engaging with historically black colleges, minority serving institutions, and similar institutions to establish related programs. An example those programs was competitive research awards, which could include research contracts and credit back to university for EM mission-related research projects.

DOE-EM was also working to develop an internship program, hosted at DOE National Laboratory complex, Savannah River Site, and EM Headquarters. Additionally, the Savannah River Environmental Sciences Field Station hosted a 10-week hands on summer program where students could assist research projects affiliated with the Savannah River Ecology Laboratory.

Nichole stated that DOE-EM hoped to hear from all its advisory boards on how to better reach disadvantaged communities and appreciated all efforts that those boards made in reaching those stakeholders in minority communities.

Board Questions to the US Department of Energy

Jan Catrell, Washington League of Women Voters, noted that the initiative appeared to be an ambitious undertaking and thanked Nichole for the presentation. She heard in other places about “socializing” the Justice40 initiative and was curious as to what that meant. Nichole explained that, particularly in New Mexico, DOE-EM had reached out to stakeholders through those the agency considered to be thought-partners and discussed what was being done within the program. These discussions would consist of efforts being made, discussed how the 40% would be calculated, and solicited to better understand what the communities needed from DOE-EM regarding its remedies and how it went about its work.

Esteban Ortiz, GreenLatinos, felt that a big concern was the need to inform young people, particularly those in colleges, about what goes on at Hanford and the best means of getting that information. He noted that developing materials in Spanish was important. Nichole stated that DOE was expanding its outreach in that regard, having greatly increased that investment from the five to ten million dollars it used to receive. With that expansion in funding, it was expanding its outreach particularly to minority serving institutions and offering outreach in other languages with the intent of meeting those populations where they are.

Chris Sutton, Public at Large, asked how the Justice40 initiative related to DOE’s Environmental Justice Strategic Plan, of which the third revision was released in 2017, and the associated five-year implementation plan. Nichole was not familiar with that particular plan but explained that what set Justice40 apart was that it looked at measured benefits to ensure that a certain percentage was provided to specific communities. She was not aware of other programs that looked at those sorts of calculations.

Shannon Cram, University of Washington, was excited to learn about the outreach to minority serving institutions. She noted that she taught at a minority serving institution, but it was not on DOE’s list. She asked about the process to develop that relationship with DOE in order to take advantage of the available opportunities. Nichole stated that, in the past, most of those relationships were developed through DOE’s cooperative resources award, while the internship opportunities were advertised through LANL’s website.

She stated she could provide information on how to access those opportunities, noting that DOE was endeavoring to expand its reach and increase engagement. It hoped to reach schools that were not previous in that program. The best means of contacting her was by email at: nicole.nelson-jean@em.doe.gov.

Steve Wiegman thanked Nichole for the discussion, noting that it was an important topic. He stated that the Board would do what it could to make those connections, noting that it seemed that reaching out to the public was not as prominent as its activity as it should be.

Jeff Burright, Oregon Department of Energy, noted the mention of benefits under the Justice40 initiative. He stated that there could be benefits to those conducting DOE's work in the present, those that would be in the future, or those in the surrounding communities. He asked how benefits would be defined as those metrics were developed. Nichole explained that was something that had been under discussion since program initiation, as well as the question of what types of benefits might be provided. She noted that the open public comment period and ongoing pilot program efforts might help shape that ultimate definition.

Gerry Pollet, Heart of America Northwest, stated that his organization and others, tribes, and the Board each commented on the Hanford budget priorities. He noted that soil and groundwater cleanup as its focus had immediate environmental justice impacts, particularly to local tribes, and was defined as a focus for the Justice40 initiative. However, the budget for soil and groundwater at Hanford was reduced. He asked that Nichole explain how Justice40 was used in the budget process and how that might be revised. Additionally, he stated that he was hurt that a meeting on environmental justice did not begin with a land acknowledgement. Nichole explained that, since the Justice40 initiative was in a pilot phase, it was still being determined what those soil and groundwater efforts were doing for communities, and she could not speak for Hanford in particular.

Washington's Environmental Justice Law and Hanford

Ryan Miller, Washington State Department of Ecology (Ecology), and John Price, Ecology, provided a presentation on Washington State's environmental justice law, the Healthy Environment for All (HEAL) Act, which was passed in March of 2021. The intent of the law was to remedy the effects of previous policies and prevent future harm.

To preface the discussion, Ryan provided the state's definition of environmental justice: "Environmental justice means the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, rules, and policies.

Environmental justice includes addressing disproportionate environmental health impacts in all laws, rules, and policies with environmental impacts by prioritizing vulnerable populations and overburdened communities, the equitable distribution of resources and benefits, and eliminating harm."

He explained that the act resulted in creation of an Environmental Justice Council and Interagency Workgroup, which would provide environmental justice guidance, identification, and measure tracking. Additionally, it required State agencies to create or strengthen their environmental justice implementation plans, community engagement plans, and tribal consultation frameworks. Plan requirements include both goals and actions to take, measures to track and measure accomplishments, methods by which equitable assess would be assured, and strategies to ensure compliance with already existing laws. Ecology had available a Washington Health Disparities map tool which each HEAL Act-participating agency contributed data to.

At Hanford, he stated, the site was contaminated by 40 years of plutonium production operations and for every year that cleanup continued was another year where the risk of contamination and environmental impact was present. Cleanup delays mean prolonged threats to habitat and wildlife, and risks to the physical, cultural, and economic well-being of local tribes and communities. He explained that several of the local tribes had reserved treaty rights, though the Wanapum Tribe had not received any compensation, despite being forced off the land. He reviewed a table detailing the area demographics and a heatmap of minority populations in the region surrounding Hanford.

He explained that the legacy of environmental contamination at Hanford had regional impacts, such as community wellbeing, and disproportionately impacted already underserved communities. He provided the example of Mattawa, the closest city to the Hanford Site, where a high percentage of the population identified as Hispanic. The Heal Act ensured that such information was provided in an accessible format.

John reviewed specific of environmental justice efforts at Hanford. He explained that the Tri-Parties—Ecology, DOE, and the US Environmental Protection Agency (EPA)—each had parallel initiatives. The leaders of each agency met multiple times per year and included on those meeting agendas was environmental justice and how to move forward with cleanup in that regard. Though the HEAL Act was relatively new, he noted, Ecology had been concerned about environmental justice for a long time.

He explained that there were some practical best practices that could be done for the Hanford Site, such as including prominent dual-language placement of translation availability on printed communications; recognition of the “digital divide” with expansion of public access to records and reading materials; dual language Hanford Site perimeter signage; and others. Finally, he stated that the best thing that could be done was to speed up the cleanup, minimizing the Site’s risks and impact.

US Environmental Protection Agency Perspective

Ruth Nicholson noted that Roberto Armijo, EPA, had provided a number of environmental justice to the HAB over the previous months.

David Einan, EPA, stated that EPA’s presentation on environmental justice had already been seen by the HAB, and as a result, felt that the meeting time would be best used for questions. He noted that EPA looked to the tribes for guidance, explaining that the agency had a treaty responsibility to those tribes that was broader than just environmental justice. EPA looked to them to learn where their concerns were best addressed, whether under treaty obligations or environmental justice efforts.

Roberto provided a link to EPA’s presentation during a Public Involvement and Communications Committee (PIC) meeting: <https://youtu.be/fDZ7n7MxRCU?t=8041>

Board Questions to Ecology

Steve recognized that the best thing anyone could do at Hanford for environmental justice was to get cleanup finished quickly. He appreciated what the agencies were emphasizing and wanted to make sure that the conversations held in the meeting were related to that topic directly. He wanted to ensure that the tribes would eventually be able to access the land appropriately, understanding that the Site would be contaminated to some extent forever, and wanted to be mindful of that in decisions made. He felt that the agencies provided a good framework for environmental justice.

Jeff asked John if there was a “crosswalk” of how each agencies efforts in environmental justice might intersect or how they all fit into the “big picture.” John explained that there was no crosswalk yet, as they were working gradually and aspects like DOE’s metrics for success were not yet established. Ryan

contributed, stating that environmental justice was an important topic for Ecology, and likely for the other agencies as well. He expected that the topic would be around for the foreseeable future and that each of the agencies would be interested in discussing it. He stated that any advice from the Board in that regard was welcome.

Rob Davis, City of Pasco, remarked that it was great discussion, noting that an aspect of environmental justice was openness and transparency, like the discussion being held. He expected that everyone wanted to see cleanup finished and as a result felt that the Site's end state was really the focus, as considerations for environmental justice would no longer be required once that goal was reached. He stated that the only thing required to reach that goal was money. He asked that everyone concentrate in getting the work completed.

Esteban thanked Ryan for his comments. He recalled his recent trip to Othello, which had a significant population of farmworkers facing a language barrier. He learned that many of the people there were unaware of what was going on at Hanford. He stated that many of the people in those communities believed that lack of knowledge to be a consequence of the information not being communicated to those communities, which might best be solved at the high school level. He noted that many of the people in Othello come from elsewhere and had a large Guatemalan community. Ginger Wireman, Ecology, agreed, noting that in her visits to regional high schools, most students only know of Hanford High School, rather than the site it is named after.

Jan noted a mention of additional funding by DOE and asked if was known how that money would be distributed. Upon learning that DOE was working with LANL on environmental justice efforts, she wondered if Pacific Northwest National Laboratory (PNNL) might get funding for similar efforts. She also asked if Ecology might receive new funding for environmental justice programs. Carrie Meyer, DOE, stated that, to her understanding, the funding had not yet been allotted as the program was not that far along in the process. She did not expect that much would be allocated to Hanford and would instead likely go to STEM initiatives in or for underserved communities. John stated that, at a statewide level, more money was being directed to environmental justice, though not specifically for Hanford. He reiterated that Ecology had been considering environmental justice since 1995.

Ryan shared a comment entered into the meeting chat by David: "Esteban is right; we need to do a better job of engaging and communicating because I'm concerned we aren't asking our questions in the right voices to HEAR these other voices." Ryan agreed, stating that each agency needed to do a better job in reaching those communities. He hoped for more focus and dedication to those efforts.

Liz Mattson, Hanford Challenge, noted that the agenda for the COTW seemed to have been switched at the last minute and had not seen much communication as to why. She stated that Hanford Challenge's present work was focused on identifying acceptable topics to serve as accessible entry points to those that did not know about Hanford, such as end states. She asked someone to discuss when a meeting on that topic would happen and if there was a commitment to that.

Carrie responded, stating that there was no one at DOE available to provide that briefing, which was why the topic was changed. DOE was hoping for the opportunity to discuss the topic in the fall, instead. She explained that the Hanford workforce was in the process of hiring to fill open positions and shared that there was only one person presently managing all the work around site stewardship, tribal affairs, and other related scope. The HAB meeting topics needed to be balanced around staff availability. Furthermore, as there were developments around the topic that that could be in place by the fall, which would serve for a more comprehensive briefing at that time. She also noted that the questions received around the topic were far reaching and broad, where the agency was better positioned to discussed

specific and relevant items like the Comprehensive Land Use Plan (CLUP) or the Inner Area Principles. Liz felt that end states would be an engaging conversation with an accessible baseline of information needed to participate. She was glad to learn it was being planned for the fall. John hoped that DOE would involve Ecology and EPA in developing those briefings.

Chris stated that, if DOE was going to be serious about implementing environmental justice, as it related to Hanford, the effigy would require money. Per the most recent Lifecycle Scope, Schedule, and Cost Report, he explained, the related line item showed a minimal increase in funding over time. DOE would need to increase its effort in obtaining funding, as the present and expected funding level would not be likely to be sufficient for a significant environmental justice impact.

In response, Carrie noted that she hoped that the Board could assist in community outreach. She explained that, as the pandemic recovery progressed, it was hoped that DOE could look at how its funding was being allocated and consider the effectiveness of its programs as well. DOE hoped to understand what it could do to assist the Board in communicating information to the public. She reviewed some ongoing and previous efforts and agreed that DOE did need to pursue more funding, but also needed to ensure it was best utilizing what it had. Chris noted that, in the Environmental Justice Strategic Plan implementation document, the listed goals simply required more money than what was available, and that level could not be achieved by economizing. Carrie stated that she would need to go back and review those to continue that line of conversation in the future.

Pam Larsen, Benton County, stated that, in consideration of what could be done to reach out to the public, the Board had not been able to meet in person in the prior two years. In the past, however, it was able to hold helpful information sharing workshops, providing an example of a previous workshop on the Waste Treatment Plant (WTP). She expected that holding a series of public meetings and inviting the public to attend would be excellent and could serve to restart the successful conversations of the past. Carrie recalled the WTP meeting, stating that the first one held had about 400 attendants, including participants from Oregon and western Washington. She agreed that it was successful and stated that such workshops were “on the table” for the future.

Board Discussion on Environmental Justice

Following a break, Ruth Nicholson explained that the present agenda item was intended to serve as an open conversation on the topic of environmental justice. Steve Wiegman noted that the application of environmental justice seemed different than past applications he was familiar with. He thanked Jan Catrell for attending an EM Site-Specific Advisory Board (EMSSAB) meeting on the Board’s behalf, where the same topic was discussed.

Jan explained that she had the slides available from that meeting, which included the administrative priorities for DOE. She noted that there were some differences in emphasis, such as a prioritization of tribal engagement.

Susan Leckband, Washington League of Women Voters, explained that the Board did not have a budget for public outreach, however, the many of the individual organizations on the do much of that. She wanted the Board to understand the intersection environmental justice and Hanford cleanup to provide that technical baseline, and from there determine how intersected with the Board’s mission and activities.

Rob Davis wondered if the Board should consider specific injustices to consider, recalling an anecdote of seeing a sign in another language. As an example, he suggested that an issue of pollution around Hanford workforce commuting could potentially be solved by bus use. He suggested the Board start listing those,

either as individual members or as part of an Issue Manager (IM) team, to see what the Board might be able to do or advise around environmental justice.

Jeff Burright explained that PIC held previous conversations on the topic but was not entirely sure where to go with the topic. He noted that, as Susan had mentioned, it was not clear where or how that intersected with the Board but hoped to review what PIC had discussed. Those included discussions included means of keeping the history of Hanford alive in the future through education, not only through STEM programs, but also through the arts; how environmental justice relates to the metrics used in determining risks; and considerations of looking at the HAB's values.

From conversations held in that day's meeting, Jeff was considering differences and parallels in the agencies' efforts in environmental justice. He thought it might benefit the Board to learn more of those efforts to see if there was opportunity to advise. He thought it also needed to be determined who was being considered in the environmental justice: the future users of the site or those that use it now, such as those seeking employment or engaged in cleanup. He did not, however, believe it to be in the HAB's scope to serve as an outreach arm. He suggested that it could be valuable for the agencies to discuss their outreach strategies with the Board, such that the Board could identify tweaks or optimizations to those efforts and potentially identify those that still need outreach. He wondered what might be learned from other agencies, such as those involved in the cleanup of the Duwamish River.

Steve appreciated the holistic overview Jeff provided. In addition, he hoped to discuss risk, so that present and future users of the Hanford Site could understand the risks associated with that place. He hoped that risk communication could be integrated into the Board's thinking around environmental justice.

Richard Bloom, City of West Richland, suggested that, in talking about environmental justice, or justice in general, injustice needed to be considered. That could be historical or current, such as emissions. Where there was long-term risk, there was likely to be long-term injustice. He thought that, in identifying the injustices, the HAB could consider means of addressing those injustices. He noted that, on the emissions subject, he had been working to get busses to Hanford for over 12 years and hoped to have good news on that front in the future.

Dan Solitz thanked Jeff for inviting expansion on ideas of where to take the topic. Dan felt that the conversations around intergenerational and interregional equity and justice, though a complicated, would be a worthwhile one to have. He explained that groundwork for the conversation had been laid as a result of a DOE request for information around identification of interim storage for spent nuclear fuel. As part of that process, DOE required public feedback on, among other things, removal of barriers for meaningful participation, especially for groups and communities who have not historically been well-represented in such conversations.

Dan Strom, Benton-Franklin Health District, noted Steve's earlier mention of risk. He felt that an understanding of risk would be valuable in understanding environmental justice. He explained that he worked on a DOE-funded project in the 1990s called the Integrated Risk Assessment Project (IRAP) for Hanford, which looked all types of risk associated with Hanford. He stated that, for most people, risk does not only mean human health risk; it could mean risk in financial investment or any number of other things. From his perspective as public health professional, he often focused on public health risks, but environmental justice looked beyond that, such as risks associated with education or economics.

He reviewed potential human health risks associated with the Hanford Site. There was a worker safety aspect. He stated that there were 47 occupational fatalities since 1943 at Hanford, though more than half

were in the first two years. Those safety concerns consisted of “hardhat and handrail” concerns, as well as chemical and radiological exposure.

He suggested that the HAB should think through the journalistic questions when considering risk: who, what, when, where, why, and how. He posed the question of “when” for risk occurrence at Hanford and explained that exposure could lead to risk further in the future. As an example, whole a large dose of radiation for someone in the present day may not matter if someone is 75 years old, it could matter for someone at 20. In that example, the 20-year-old that was exposure may have a heritable condition, meaning that the individual’s children might inherit that health risk. The “when” is not only the question of when the exposure was, but also the when the health effect could manifest. It might be a risk present to all future generations, it might not show up for several generations, or might never manifest at all. On that same line of thought, Dan Strom proceeded to discuss committed risk in comparison to transient risk. A committed risk would be something that remains for a lifetime, while a transient risk is where the risk is no longer present following the event.

He moved onward to “who.” There were risks to the workers and the public. Despite the present risks, he explained that people were willing to work at Hanford because it was in actuality a very safe place to work, with study after study backing that up, with only the “healthy worker effect” being seen as a result. He noted that people that are healthy enough to work are generally healthier than the average population that they were compared to, and that correlation was called the healthy worker effect. Knowing that, he reviewed what health effects might be “teased” out of Hanford. He stated that, for a decade or so, there was an excess of multiple myeloma cases, which had not been seen before and seems to have disappeared since. That trend did not emerge clearly in DOE health and mortality studies.

DOE’s administrative control level for radiological doses were ten times higher than the public limit at 1,000 millirems per year. Though the legal limit was 5,000 millirems per year, no one had approached that limit in decades. He stated that the reason that a worker would accept a risk up to 10 times higher than a member of the public was for the paycheck, and that was why people would typically do dangerous jobs to begin with. However, workers were well taken care of at Hanford.

He moved onto “what” kind of health effects might occur in regard to chemical and radiation exposure. There could tissue effects such as chemical or radiation burns, though he was unaware of any radiation burns that had occurred in the history of Hanford. He considered the possibilities of cancer and heritable ill health such as and explained what those might theoretically consist of. However, he stated, that there was never a measurable instance at Hanford for those.

He asked “why” workers would be put at risk and stated that would be to reduce the risk in the future to both the public and the worker. He explained that the worker doing that risk reduction work would accept payment and be exposed to slightly higher risk in the future, but that is comparable to other risky jobs like being a firefighter. Present risk, as well as funding, was being traded to reduce future risk.

Dan Strom explained that heritable ill health, such as transgenerational effects that have been seen by radiation exposure in fruit flies, had never been seen in humans. He stated that work was being done to avert risk to future generations, but asked, when cleaning up Hanford, were they averting risk to the present generations? He stated there had not been an off-site dose since the 1949 Green Run that exceeded any current limits.

He stated that, in that IRAP report, there was a concept developed called “gained life expectancy.” The concept was based on loss life expectancy, which is an established concept. By that measurement, the number of seconds that would be lost in a person’s life expectancy could be determined based off an

activity being done. As an example, a person's life expectancy would be shorted by six minutes for every one minute spent smoking a cigarette. The same type of calculations were made using millirems for and for 33 chemicals in that report.

He explained that the work being done at Hanford was not gaining life expectancy for the present generation because no one was drinking contaminated groundwater and what was in the Columbia River was absolutely negligible, and what radioactive material was present in that river was from upstream rather than the Hanford Site.

He discussed the "how" of Hanford cleanup, and within that, what could be done and when. The site could be cleaned up by dedicating funds to doing so, though that diverts fund from other priorities. He explained that priorities could be set by comparing risks, which could potentially be done by comparing how much life expectancy was gained through Hanford cleanup compared to how much life expectancy was lost as a result of irradiated workers, which epidemiology could not detect.

He noted that journalism did not often ask "how much." There was also a question of how much would be spent to avert that risk. He explained that it was known how much was spent to avoid one person/REM—a REM of radiation dose to one person. As of a study conducted for DOE in 1999, Hanford was spending \$50,000 to avoid one person/REM. By that calculation, he estimated that approximately \$10 billion was being spent to save one statistical human life. Elsewhere, however, he stated a person/REM could be averted for \$1,000, where lung cancer from radiation exposure was the primary concern. He provided examples of several locations where that was the case, but suggested that where natural radiation exposure was present, there was no financial incentive; no laws were violated and there was no one to sue.

Dan Strom stated that, when discussing risk, not only should human health risk be considered, but it should be considered when something was being done that ignored bigger risks. He thought it should be considered who was getting the risk from cleanup and who would be benefiting from it, along with what that benefit was. He noted that, should that benefit be a cultural one, that was outside his area of expertise. He clarified that his statements were entirely from a public health and financial perspectives and did not apply to cultural values.

He concluded by saying that he did not know what the present risk to human health and safety was off-site. There was no significant radiation dose, nor was anyone drinking water above clean drinking water standards that had been set. However, he understood that the future risk of groundwater or river contamination from a tank breach could be significant. He clarified that he brought that up because environmental justice costs money, just as Hanford cleanup did, as many other things did. He stated that the numbers around public health risks were agreed upon by experts internationally. Though he could not tell anyone how to spend money or what aspects were most important, he wanted to help define the public health risk.

Steve thanked Dan Strom for his extensive overview. He noted that he asked for that discussion to be held because he thought that the HAB needed to be informed not only by the individuals' personal perceptions of risk, but several ways in which it was defined. He clarified that was but one specific viewpoint, though it had extensive information backing it. He noted that Hanford was regarded as a "risk pit" back when he started working there, but that risk was measurably lower now.

Shannon Cram highlighted that, when discussing environmental justice, there was an aspect of inequality of risk, including structural inequalities in the social landscape. Environmental justice at Hanford would include working toward a cleanup that was equitable. She loved Jeff's suggestion of looking at the Board's values in relation to environmental justice and considered the idea of adding a new bullet. She

felt that Ecology or EPA's definition of environmental justice with align well and hoped to see environmental justice become a part of the Board's basic values.

David Reeploeg, Tri-City Development Council, appreciated Dan Strom's comments and scientifically defined risk. He felt that was an important aspect of informed decision-making and that a taking risk-informed approach made a lot of sense when determining spending priorities. Specifically in regard to environmental justice, however, David stated that, though there might not be any specific risks today or tomorrow, it was important to eliminate things that may become significant risks in the future, such as the 324 Building or tank waste. He recalled the Plutonium Uranium Extraction Plant (PUREX) tunnel collapse, stating that if nothing else, such events create a public perception the risk at Hanford, especially within certain communities such as the agricultural community.

Additionally, when discussing underrepresented groups, David thought it would be work looking at opportunities for employment retention programs at Hanford, particularly for underserved communities. He provided an example where a worker may come from elsewhere, with a different ethnicity and culture, that may not immediately feel comfortable with the culture at Hanford and the surrounding region. He noted that there were also positive economic benefits associated with cleanup in the present. As cleanup was completed, many of those would go away. He noted that intergenerational equity could be achieved through economic development and diversification for the region.

Chris Sutton read and discussed a quote: "Many environmental justice issues revolve around issues of environmental risk. Agencies with ample experience and knowledge of their activities will view risk differently from lay citizens. The real issue is often the perceived risk rather than the real risk. Differences in the perception of risk are escalated where there are outstanding issues or distrust between the agency and a community or group." He found the mention of perception to be interesting and stated that a lot of people acted on their perceptions, regardless of how real. He thought that was something to consider.

Esteban Ortiz stated that the racial dynamics of the surrounding communities were influenced by those at Hanford. He explained that he heard from the community how technical some issues around Hanford could be. He wanted to apply a commonsense approach in community engagement and how that affected community perception around Hanford. He thought the best approach would just be to get out and talk to people more.

Susan Leckband listening to the varied perspectives provided was very interesting. She noted that something she had not heard discussed at length was sustainability. She felt that was something that needed to be thought about by the Board, especially when discussing environmental justice. She stated that there were some aspects that that were of particular importance to the tribes, through the Board did not speak for them. She clarified that they voiced their concerns through a government-to-government relationship, and she appreciated their participation on the Board. She appreciated David's comments on sustainability.

Chris noted that he was surprised to learn that Bill Clinton signed *Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* in 1994. Despite that, this discussion was the first mention he had heard of it. He felt that reinforced the need for lessons learned on such subjects. He stated that things could not just be discussed once and left to be, they needed to be revisited periodically to ensure that all parties were "on the same page." He thought that would apply to many other HAB topics as well.

Rob Davis explained that he worked in nuclear facilities throughout his life, and that in each and every facility there were safety and educational programs in place for the workers. Those at the Hanford Site, he

felt, were second to none, and that was why the workplace was effectively accident-free. The risks, from his perspective, were engineering failures. He stated that tank leaks were a risk that was not being calculated into the big picture and it was not known how to evaluate that risk. He felt that terms of risk were necessary and future risk would likely need to be a focus when discussing environmental justice.

Public Comment

Anthony Smith, Nez Perce Tribe, explained that, through the day's discussion on environmental justice, he learned a lot about various people's perceptions. He stated that it was really about funding, as without it, nothing would occur, and was a huge component that environmental justice was centered around. Without the opportunity to become informed, he stated, one was put at a disadvantage. He noted the mention of *Executive Order 12898* and explained that, in relation Hanford, there was a question of what clean meant to an individual or group. The Tribe informed the government of its perspective and how it wanted cleanup to progress, but ultimately that decision would be made without the Tribe. That was an aspect of environmental justice: inequality.

Anthony explained that the Nez Perce Tribe had an end states policy of unstructured use and an uncontaminated site. Anthony stated that DOE never walked away from the idea that Hanford will serve as a repository, evidenced by it hosting naval nuclear reactors and allowing interim decisions to become long-term policies. He stated that the Nez Perce would be living with those decisions longer than the US Government had been in place; the region would always be the Tribe's home.

He stated that the conversation has been a one-sided one and that no one was listening. The Nez Perce had been restating its message for a long time. The initial conversation occurred in 1994, and they were still having that same one; however, the understanding and meaningful conversations were not present. Regarding Dan Strom's comments that he felt suggested a lack of present risk, he was not convinced. Until it could be proved that the Hanford Site was uncontaminated for the Tribe's use, the Tribe would assume it to be contaminated. The Tribe could not be expected to trust without proof, as it had a long history around that. He asked: What is different? What is the action? What will move forward? Without the appropriate funding to back those answers, he stated, he expected that the conversations would be held again in 30 years.

Rose Ferri, Yakama Nation, stated that Anthony covered much of what she had to say and commended his statement. She added a comment that, unless one knows and understands the traditions and culture of the native tribes, one cannot possibly understand the risk to native people. She stated that the question was: Are tribal people disproportionately affected by the cleanup level? She felt Anthony's statements answered that question.

Lorain Contreras, Yakama Nation, stated that the need to constantly rationalize what needed to be done to heal the land had become disheartening for the Yakama Nation and the other affected tribes. Within the Yakama Nation's environmental program, the younger generation were being taught about what was going at Hanford. She stated that, though the DOE and Government Accountability Office's perspectives being offered on cleanup were positive, they did not acknowledge the damage to the Tribe's future use of the land. She felt that those in positions of power needed to understand and acknowledge that in order to move cleanup efforts forward. She explained that grouting and leaving waste in-place did not heal the land. She had been in meetings where she learned that there was contamination that could not be identified, but such concerns seemed to have been forgotten, or she was told that it would be left in-place. The Tribe had been told that cleanup should be transparent but finds itself unable to get its questions answered. She stated that was not fair or just, and the tribes should be able to fully participate.

Closing

Steve Wiegman felt the conversations were insightful and he thanked the tribal representatives for clearly defining their concerns for the HAB to consider. He stated that the Hanford Site was a challenge and would remain so for the rest of his life. He hoped to hand the effort off to future generations in a state that was better than the one in which it started, understanding that there was still a lot of work to do.

He thanked DOE and the facilitation team for their efforts in setting up the meeting and thanked everyone for participating that day. He asked that the participants think about what was heard that day in greater context, stating that obligation did not end with the HAB.

With his statements concluded he made a final declaration: “End of meeting.”

Meeting Recording

<https://youtu.be/fgA7UXnhssQ>

Attachments

[Attachment 1: Meeting Agenda](#)

[Attachment 2: DOE Presentation – DOE-EM’s Justice40 Initiative and EM Minority Serving Institutions Partnership Program Efforts](#)

[Attachment 3: Ecology Presentation – Washington’s Environmental Justice Law and Hanford](#)

Attendees

Board Members and Alternates:

Dan Solitz, Primary	Esteban Ortiz, Primary	Gene Van Liew, Primary
Gerry Pollet, Primary	Jan Catrell, Primary	Laurene Contreras, Primary
Richard Bloom, Primary	Rob Davis, Primary	Robert Waldher, Primary
Shannon Cram, Primary	Shelley Cimon, Primary	Steve Anderson, Primary
Steve Wiegman, Primary	Susan Coleman, Primary	Chris Sutton, Alternate
Dan Strom, Alternate	David Reeploeg, Alternate	Jeff Burright, Alternate
Kristie Baptiste-Eke, Alternate	Liz Mattson, Alternate	Marissa Merker, Alternate
Mason Murphy, Alternate	Michael Mays, Alternate	Pam Larsen, Alternate
Susan Leckband, Alternate	Tom Sicilia, Alternate	

Others:

Cameron Hardy, DOE	David Bowen, Ecology	Abigail Zilar, AttainX
Carrie Meyer, DOE	Edward Holbrook, Ecology	Tyler Oates, Bechtel
Gary Younger, DOE	Ginger Wireman, Ecology	Dieter Bohrmann, CPCCo
JoLynn Garcia, DOE	John Price, Ecology	Dana Cowley, HMIS

Mike Berkenbile, DOE	Ryan Miller, Ecology	Debbie Kelley, HMIS
Nicole Jean Nelson, DOE	Dave Einan, EPA	Debra Yergen, HMIS
Robert Crosby, DOE	Roberto Armijo, EPA	Jen Colborn, HMIS
Theresa Kliczewski, DOE	Tom Rodgers, WDOH	Patrick Conrad, HMIS
		Pat Bisese, Street Legal Ind.
		Miya Burke, Hanford Challenge
		Jeff Wyatt, OHCUB
		Anthony Smith, Nez Perce Tribe
		Li Wang, YN ERWM
		Rose Ferri, YN ERNW
		Kyle Hendrix, Other
		Ace Hoffman, Other
		Kelsey Shank, TheEdge
		Wayne Barber, Weapons Complex Monitor
		Jodi Christiansen, HAB Facil.
		Josh Patnaude, HAB Facil.
		Lacey Mansius, HAB Facil.
		Olivia Wilcox, HAB Facil.
		Ruth Nicholson, HAB Facil.

Note: Participants attending this meeting virtually were asked to sign in with their name and affiliation in the chat box of Microsoft Teams, while those joining by phone were asked to announce that information. Not all attendees share this information. The attendance list reflects what information was collected at the meeting.